

8. Economic Growth Strategic Goal

“Support a transportation system that sustains America’s economic growth”

8.1 Outcomes

1. Ensure that the Producer Price Index (PPI) for transportation services grows less rapidly than the overall PPI through the year 2005
2. Reduce barriers to trade that are related to transportation
3. Improve the U.S. international competitive position in transportation goods and services
4. Improve the capacity of the transportation workforce
5. Expand opportunities for all businesses, especially small, women-owned and disadvantaged businesses

8.2 Strategies

Supporting economic growth is one of the most basic purposes of our national transportation system. Transportation is the enabler that facilitates distribution and creates economic value for the producer. Access to transportation has grown considerably in the past seven years but there are areas of our country such as Appalachia, Native American lands and the Mississippi Delta region, that have urban and rural communities in which transportation is limited. President Clinton has called for “... a 21st century revolution to open new markets abroad and right here in America.” We at DOT are acting to ensure that the transportation services needed to serve both our domestic and international markets are in place.

Our economic growth outcomes and strategies concern the effectiveness and efficiency of the United States transportation enterprise as a whole. The economic growth strategic goal complements DOT’s mobility strategic goal that relates to the experience of the individual user.

Collaboration, innovation, commerce and the financial health of the transportation sector are very strong themes throughout our economic growth strategies. These subjects are growing in importance as the United States competes in a global economy and transportation either improves our competitive position or weakens it. Through the DOT International Policy Council, we develop and coordinate international programs and activities to support a range of U.S. government initiatives around the world that require an efficient and safe global transportation system. For example, DOT is actively engaged in supporting trade and transportation initiatives in Africa, the Western Hemisphere, and the Asia Pacific Region. Beyond these regional efforts, several DOT initiatives will effectively support U.S. trade and commerce worldwide.

We will employ five broad strategies to achieve our economic growth outcomes. We will strive to 1) share the cost and risks of building and maintaining a transportation system to move people and goods efficiently at home and abroad; 2) maximize the productivity of the existing system; 3) support regulations and standards that sustain innovation and trade; 4) keep improving the system through analysis of timely information, and 5) accelerate the use of new technologies.

In contrast to the DOT safety strategies all of which supported our safety outcomes of reduced fatalities and injuries, our economic growth strategies are targeted to specific outcomes. The resources and programs listed in DOT's Performance Plan and budget are necessary to achieve the economic growth outcomes presented above and the strategies presented below. Each year, DOT reassesses its performance goals and targets based upon appropriations. The schedule for executing the strategies extends from the present through 2005. We will continue to benchmark and improve processes and move quickly toward electronic government to improve our efficiency and customer service.

8.2.1 Investment Strategies: Share with stakeholders the cost and risk of building and maintaining a transportation system to move people and goods efficiently at home and abroad:

- a. Develop and deploy new transportation technologies, including those that support navigation and e-commerce; (Supports outcomes 1 and 3)
- b. Optimize all transportation system investments; (Supports outcomes 1, 3 and 5)
- c. Encourage increased private sector investments in transportation, including the participation of small, women-owned, and disadvantaged businesses in DOT and DOT-assisted contracts and grants; and (Supports outcomes 1, 3 and 5)
- d. Promote the multi-jurisdictional financing of intermodal facilities, including public and private transport infrastructure. (Supports outcomes 1 and 3)

8.2.2 Effectiveness Strategies: Build alliances to maximize the productivity of the transportation system:

- a. Seek ways to improve the efficiency of the transportation system relative to peak usage through policies such as congestion pricing and through accurate forecasting of lifecycle and facility demands; (Supports outcomes 1 and 3)
- b. Improve the performance of the transportation system through a pro-competitive agenda, including using federal investments to reduce entry barriers in key transportation markets; (Supports outcomes 1, 3 and 5)
- c. Work with domestic and international stakeholders to ensure that infrastructure planning and development promotes improved intermodal connectivity, flexibility, timeliness and resistance to adverse weather; (Supports outcomes 1, 3 and 5)
- d. Build alliances with domestic and international stakeholders to identify and minimize operating and investment barriers to interstate, interregional and international transportation; (Supports outcomes 1, 2, 3 and 5)
- e. Collaborate with stakeholders to develop a long-term, conceptual vision of transportation technology and its implications for the transportation system and DOT; (Supports outcomes 1-5)
- f. In partnership with academia, industry and labor, and other public and private entities, expand the availability and accessibility of transportation-relevant curricula at all learning levels to develop a workforce with the knowledge and skills necessary to design, deploy, operate, and maintain a 21st century transportation system; (Supports outcomes 1, 4 and 5)
- g. Establish internships and mentoring programs in the transportation professions by working with all levels of government, industry, labor unions and the

education community including minority serving institutions, to help assure that the future transportation workforce is globally competitive; (Supports outcome 4)

- h. Work with other federal departments and agencies to recommend where government programs could be better aligned to support economic growth and to cooperate on U.S. global initiatives that support the economic growth of the U.S. and its trading partners; and (Supports outcome 2, 3 and 5)
- i. Seek ways to ensure that the future structure of the transportation industry provides safe, profitable and competitive service, able to meet the needs of shippers, communities and industry employees. (Supports outcomes 1, 3, 4 and 5)

8.2.3 Strategies for Standards and Regulations: Advocate national and international standards and regulations that sustain innovation and trade by :

- a. Working with the private sector to provide flexibility in regulations and standards to allow for innovation and incentives that improve transportation efficiency; (Supports outcomes 1,2, 3 and 5)
- b. Advancing the development and deployment of international, intermodal logistics systems and intelligent transportation systems (ITS) architecture (i.e., systems, operations and protocols); (Supports outcomes 1, 3 and 5).
- c. Promoting interstate, interregional and international cooperation by all transportation stakeholders to increase harmonization in policy, regulations, standards, operating practices, and technologies; and (Supports outcomes 1, 2 and 3)
- d. Collaborating with stakeholders to establish and share information on world-class benchmarks useful in improving all aspects of transportation. (Supports outcomes 1, 2, 3 and 5)

8.2.4 Information and Analysis Strategies: Analyze and share information related to the effectiveness and efficiency of the transportation system:

- a. Evaluate the system-level performance of the transportation enterprise in concert with state and local agencies, private providers of transportation and other stakeholders; (Supports outcomes 1 – 5)
- b. Use emerging information technologies to increase the timeliness, validity and reliability of transportation data related to America's economic growth; (Supports outcomes 1 - 5)
- c. Collect, analyze and disseminate transportation data and information that describe critical transportation trends and issues related to America's economic growth; and (Supports outcomes 1 - 5)
- d. Collaborate with the private sector to develop an understanding of future industry trends and their implications for transportation in general and for all aspects of DOT's work. (Supports outcomes 1 – 5)

8.2.5 Research and Development Strategy: Partner with stakeholders to make dramatic improvements in the transportation system, in vehicles, and in user performance by accelerating the use of new technologies and fostering long-term, high-payoff research in all modes:

- a. Develop a National Intelligent Transportation Infrastructure Architecture that includes all information needs of transportation including weather information; (Supports outcomes 1, 2 and 3)
- b. Exploit modern sensing, modeling, computer, information and communications technologies, including the Global Positioning and Geographic Information Systems, to enable the rapid and seamless global movement of people, goods and services; (Supports outcomes 1, 2 and 3)

- c. Research, develop and implement new “Free Flight” airspace management technologies that increase the ability of pilots to fly user-preferred routes; and (Supports outcomes 1, 2 and 3)
- d. Research, develop and implement enhancements to the Global Positioning System (GPS), including the Wide Area Augmentation System (WAAS) and the Local Area Augmentation System (LAAS) for precision landing of aircraft. (Supports outcomes 1, 2 and 3)

8.3 Management Challenges

The strategies articulated in the preceding section represent our approach to challenges the transportation enterprise will confront in the future. However, we recognize that to achieve our Economic Growth strategic goal, we will need to address the priority management challenges identified by the GAO and DOT’s OIG. In fact, the OIG has reinforced transportation’s contribution to the economy by stating that “The replacement and new construction of transportation infrastructure is crucial to U.S. economic viability...” The language that describes each management challenge presented below is essentially the language used by the OIG.

8.3.1 Surface, Marine and Airport Infrastructure

The OIG has stated that since oversight of surface, marine and airport infrastructure projects (amounting to \$50 billion in FY 2000), has shifted from the federal government to grantees, there is a need to apply best practices in federal oversight to major projects and find systemic solutions to problems. Acknowledging that DOT has taken steps to improve its management of infrastructure projects, the OIG has listed major areas requiring attention.

- Review outstanding obligations and deobligate funds no longer needed;
- Strengthen internal controls over cost estimates;
- Require and examine finance plans for all large infrastructure projects;
- Monitor project performance and mitigate funding risks to protect the government’s financial interest as problems are identified;
- Promote owner-controlled insurance programs that can reduce program costs;
- Use design-build contracting when appropriate;
- Improve vigilance across the federal, state and grantee levels to prevent and detect fraud and corruption associated with TEA-21 funding; and
- Ensure that airport revenues are reasonably established, that funds are used for eligible purposes, and that airport sponsors require that annual audits include a review of airport revenue.

Surface Infrastructure

The FHWA has acknowledged that TEA-21’s infusion of 45 percent additional funds into the Highway Trust Fund for the construction of transportation projects requires increased attention to the stewardship of these programs. To insure proper oversight, FHWA will take the actions presented below in support of outcomes 1 and 3.

***Milestone:** Form a major projects team to provide oversight and technical assistance to Division Offices. (FY 2000)*

***Milestone:** Issue guidance for the development of Finance Plans for projects over \$1 billion. (FY 2001)*

***Milestone:** Issue regulations on the use of the design-build procurement*

process. (FY 2002)

Milestone: Beginning in FY 2000, deploy initiatives to increase the use of high performance materials for highway projects.

Milestone: By FY 2002, conduct reviews of the Highway Bridge Replacement and Rehabilitation Program with respect to eligibility and technical content.

FTA has acknowledged that ongoing oversight of transit projects is critical although the OIG has recognized that FTA's oversight program has improved in recent years. It is important for FTA to stay on this course especially in view of the infusion of capital investment in transit. The OIG has identified several management challenges: 1) the establishment of policies recording the level of project design that must be completed before a grant agreement can be approved; 2) establishment of criteria/or thresholds for determining whether additional federal funding can be approved as an amendment to an existing grant; and 3) criteria for financial plans. Resolution of this management challenge through the milestones below supports outcomes 1 and 3.

Milestone: FTA is implementing language contained in the FY 2000 Appropriations Conference Report regarding the level of project design and readiness for a full funding grant agreement (FFGA). In the 2000 New Starts report to Congress, we enunciated FTA's implementation of this guidance by saying "...firm funding commitments, embodied in FFGA, should not be made until the final process has progressed to the point where costs, benefits, and impacts are accurately known..." (FY 2000)

Milestone: FTA has established criteria to determine whether it is appropriate to amend an existing FFGA or whether a new FFGA is called for. (FY 2000)

Milestone: FTA will develop and issue detailed guidance for the development of financial plans for capital infrastructure projects. (FY 2000)

Milestone: FTA will use its project management oversight contractors (PMOC) to provide monthly reports on all phases of construction of transit projects. Tracking project contract costs and changes, and measures to control cost will remain part of the PMOC responsibility. (Ongoing)

Marine Infrastructure

MARAD and the USCG have acknowledged the challenges that will be faced in the future to revitalize the Nation's Marine Transportation System (MTS). America's MTS must adapt to the demands of moving increasing quantities of goods and people. By the year 2020, U.S. overseas trade—approximately 95 percent of which is carried by marine transportation—is projected to more than double. No other system will be able to accommodate this growth. Actions in support of outcomes 1 and 3 are presented below.

Milestone: Establish the national level Interagency and Federal Advisory groups to plan, direct and oversee recommended actions at the federal and regional level. (FY 2000) These groups are to provide direction for public and private MTS stakeholders to consider evolving the current U.S. marine transportation system into the MTS desired in 2020. (FY 2001-2005)

Milestone: Establish local committees to deal with local issues. Create a method for elevating local issues, when necessary, to the national and/or regional level for recommendations. (FY 2000-2002) Local and regional committees should coordinate discussion and resolution of local and regional

issues. The objective is to create a local coordinating body that can enhance communication and cooperation between localities and their encompassing regions. (FY 2003-2005)

Milestone: Complete the MTS Implementation Plan citing recommendations from the MTS Proceedings and Report for the five major agencies initially involved in the MTS initiative—MARAD, USCG, U.S. Army Corps of Engineers, National Oceanographic and Atmospheric Administration, and the Environmental Protection Agency. (FY 2000) Incorporate the activities of the other 18 agencies involved in the MTS initiative into the Implementation Plan. (FY 2001) Create industry/government partnerships to address areas where action is needed. (FY 2002 - 2005)

Milestone: Initiate a research and technology program for solving problems for MTS issues. Specific projects will be developed and funded on a priority basis, as funding becomes available. (FY 2001) Because any movement of cargo or passengers on water involves an associated landside movement, research focused on port access and the water/land intermodal connections is critical. (FY 2002-2005)

Airport Infrastructure

The FAA has acknowledged that oversight of Airport Improvement Program (AIP) projects is essential to ensure that the limited funds are working efficiently for the nation's airport system. The FAA has developed a comprehensive strategy to assure that projects funded by AIP are implemented on a timely basis. The oversight actions presented below support outcomes 1, 3 and 5.

Milestone: Screen proposed projects before issuing a grant agreement for the work. FAA policy is to have construction bids in hand by the grantee as a condition to issuing the grant.

Milestone: Monitor the progress of projects and stop projects if progress is inadequate.

Milestone: Close out grants when projects have been inactive for 18 months.

Milestone: Close out grants that are still open four years after the date of the agreement.

8.4 Completed Program Evaluations

Because many factors have changed that affect the equity and efficiency of the highway user fee structure, DOT conducted a program evaluation to determine whether the user fee structure should be modified.

8.4.1 Highway Cost Allocation Study (FHWA): This evaluation determined whether different vehicle classes were paying a proportionate share of highway program costs. The study concluded that there is no compelling need to adjust federal highway user tax rates to improve user fee equity at this time. We considered this evaluation and several external factors when we developed the investment strategies in section 8.2.1 in support of outcome 1.

8.5 External Factors

DOT used four global scenarios¹ in the planning process to illustrate how external factors might impact the transportation enterprise in the next 30 years. Globalization, demographics, the U.S. economy and the role of government were the major dimensions of the scenarios. We learned that international trade and travel, e-commerce, and the emerging role of international organizations are changing transportation in different ways and at an incredible speed. We expect these factors to play a part in our ability to achieve our economic growth outcomes. Unable to predict how these complex factors may interact, we have presented both positive and negative consequences.

8.5.1 Economic Factors

The globalization of commerce requires an efficient transportation system and is key to whether U.S. businesses will be competitive in the global marketplace. A loss of public support for global trade and the public transportation investments and activities that facilitate global trade would decrease the competitiveness of U.S. business in the global marketplace. (Impacts outcomes 1 - 5)

Investment in domestic and international transportation systems is key to survival in the global market place. Given the important role that transportation plays in commerce and tourism, if there is not greater private sector investment and improved coordination of public-private sector investment in domestic and international transportation systems, U.S. businesses will not be competitive in the global marketplace. (Impacts outcomes 1, 2 and 3)

Continuing deregulation as well as horizontal integration of the global transportation system across all modes of transport will be important in developing and sustaining a transportation system that supports global economic activity. Transportation has become part of supply chain management by allowing time compression, reliable delivery, just in time inventory control, and customization. (Impacts outcomes 1, 2 and 3)

8.5.2 Technology Factors

The evolution of technology will build new global transportation networks. The development and adoption of technologies will reflect two mutually reinforcing trends that build global networks of R&D, production, and marketing: (1) expanding international trade, foreign direct investment, and corporate alliances, and (2) converging technological capabilities across national boundaries. (Impacts outcomes 1, 2, 3 and 5)

E-commerce and national competitiveness will drive the need for greater collaboration between the public and private sectors to ensure the integration and deployment of new technologies into the transportation system (including those related to advanced composites and materials, energy and the environment). Business to business e-commerce, estimated to be 10 times the volume of business to consumer, amounted to \$100 billion in 1999 but is estimated to grow to between \$1 trillion to \$3 trillion in 2003—with huge demand implications for transportation. (Impacts outcomes 1, 2 and 3)

The extension of current information and communication technologies will provide universal access to a National Information Infrastructure (NII) regardless of the information's physical location. It will support the reduction of transportation

¹ DOT's global transportation scenarios are at www.dot.gov/stratplan

cost and trip time variance and improved transportation timeliness. (Impacts outcomes 1, 2 and 3)

8.5.3 Political Factors

The role of the national government is changing with an ongoing shift away from top down, centralized decision-making and a shift towards increased state and local control of transportation. These trends could reverse if significant climate changes or if a rise in protectionism between international regional trading blocks were to occur. (Impacts outcomes 1, 2, and 3)

The changing regulatory climate is shifting toward minimizing national regulations, reducing international barriers to trade, and harmonizing international transportation regulations. This shift supports the reduction of transportation cost, trip time variance and improved transportation timeliness. (Impacts outcomes 1, 2, 3 and 4)

8.5.4 Environmental Factors

The changing impact of air, water and noise pollution is challenging transportation to control and minimize pollution or face a public backlash that may impede system improvement. (Impacts outcomes 1, 2 and 3)

Global climate change could result in warming and severe weather. The subsequent environmental and economic impact would likely cause a major reassessment of how we live and the role of transportation in our society. (Impacts outcomes 1, 2, 3 and 4)

Planning and development of transportation infrastructure that is resistant to environmentally caused damage (e.g., earthquakes, floods, etc.) is an increasing need and a new challenge. It will support the reduction of transportation cost and trip time variance and improved transportation timeliness. (Impacts outcomes 1, 2 and 3)

8.5.5 Social Factors

Trends such as the growth of the elderly population and increased demand for sale-to-door delivery of goods and services will require greater efficiency and flexibility of the transportation system. (Impacts outcomes 1, 2, and 3)

Population growth will strain demand on the transportation system and intensify competition for access to services. (Impacts outcomes 1 and 5)

New economic geography will require regionalization of transportation systems. There is likely to be pressure to provide historically uninvolved population groups greater participation in transportation planning and increased access to those systems. (Impacts outcomes 1 - 5)

8.6 Relationship Between Strategic Plan Outcomes and Performance Plan Candidate Measures

Each economic growth outcome in this Strategic Plan for 2000-2005 will be supported by one or more economic growth performance measures fully developed in DOT's Annual Performance Plans for FY 2001-2005. The economic growth goal has one new outcome that did not appear in DOT's 1997-2002 Strategic Plan – *Ensure that the Producer Price Index (PPI) for transportation services grows less rapidly than the overall PPI through 2005.* This outcome addresses the cost of transportation in the aggregate and reinforces our dedication to our original enabling legislation that calls for "...transportation at the lowest cost..." consistent with other national

objectives. DOT's Annual Performance Reports will provide targets, narrative and quantitative information on the extent to which we have achieved our economic growth outcomes. Table 8.6 illustrates the relationships between the outcomes in the Strategic Plan and the measures in the Performance Plan. The measures presented in Table 8.6 are candidates for the Performance Plan and not final selections.

Table 8.6 Economic Growth Strategic Goal, Outcomes, and Performance Plan Candidate Measures	
<i>“Support a transportation system that sustains America’s economic growth”</i>	
Outcomes	Performance Plan Candidate Measures
Ensure that the Producer Price Index (PPI) for transportation services grows less rapidly than the overall PPI through the year 2005	<u>Cost of Transportation</u> Percent change in the PPI for transportation services
Reduce barriers to trade that are related to transportation	<u>Barriers to Trade</u> Number of passengers (in millions) in international markets with open aviation agreements
Improve the U.S. international competitive position in transportation goods and services	<u>Competitive Position of the US</u> Gross tonnage (in thousands) of commercial vessels under construction in U.S. shipyards
Improve the capacity of the transportation workforce	<u>Workforce Capacity</u> Number of students graduating with transportation-related advanced degrees from universities receiving DOT funding Cumulative number of students (in thousands) reached through the Garrett A. Morgan Technology and Transportation Futures Program
Expand opportunities for all businesses, especially small, women-owned and disadvantaged businesses	<u>Business Opportunity</u> Percent share of the total dollar value of DOT direct contracts that are awarded to women-owned businesses Percent share of the total dollar value of DOT direct contracts that are awarded to small, disadvantaged businesses

8.7 Data Capacity

The candidate performance measures in Table 7.6 above include measures utilized in DOT's 2001 Performance Plan and new candidate measures. DOT has developed data for each measure and has published source and accuracy statements for each of the data systems used in constructing these measures.² We have described the scope of each measure, the limitations of the data and the statistical issues regarding uncertainty in the measurement.³ Led by the Bureau of Transportation Statistics (BTS), DOT's Operating Administrations are implementing a plan for verification and validation of all departmental data used in implementing GPRA and for other analytical purposes.⁴ DOT is committed to continuous improvement in the accuracy, reliability and timeliness of data related to the economic health of the nation and will address the data improvement issues described below.

² See www.bts.gov

³ See Appendix I [DOT 2001 Performance Plan](#)

⁴ See page 161 [DOT 2001 Performance Plan](#)

Data Needs for Economic Growth

Aggregate or system level data that relate to the productivity, effectiveness and efficiency of the U.S. transportation system are needed to support the economic growth strategic goal. Resources permitting, we plan to collect, analyze and disseminate data and information that identify critical trends and issues relating to the nexus of transportation and the economy. We will: 1) develop a means of measuring transportation cost, time, and reliability – at an aggregate level – with time series data; 2) develop a comprehensive measure of the transportation capital stock; 3) improve our view of changes in the transportation workforce; 4) develop better measures of productivity in the transportation sector, and other issues concerning use of the PPI; and 5) develop a better picture of transportation-related variables that influence global competitiveness.

8.8 Cross-Cutting Programs

DOT collaborates on a regular basis with other federal agencies on a wide-range of transportation issues that directly support economic growth. As globalization intensifies, there is more DOT international involvement with the rapidly increasing flow of commerce, business travel and tourism. For this section of the plan, we have selected partnerships that are closely aligned with our economic growth outcomes.

8.8.1 Garrett A. Morgan Technology and Transportation Futures Program

Goal: To interest students of all ages in transportation careers and to ensure that they have the knowledge and skills to pursue them. (Supports outcome 4)

Agencies Involved: DOT/RSPA lead, all DOT agencies, Departments of Education and Labor, National School-to-Work Office.

8.8.2 International Transportation Issues

Goal: To develop, coordinate and implement DOT's international transportation and trade policies and ensure that the U.S. transportation system supports America's economic growth, the competitiveness of the U.S. transportation industry, and rapidly expanding global trade and tourism. (Supports outcomes 2 and 3)

Agencies Involved: DOT/Office of International Transportation and Trade lead, Office of the U.S. Trade Representative, the Departments of Commerce and State, the Export-Import Bank and other international organizations.

8.8.3 Enhanced Gateway Initiative

Goal: To implement strategies that will alleviate impediments to the flow of commerce. (Supports outcome 2)

Agencies Involved: DOT/FHWA lead, National Science and the Technology Council.

8.8.4 Uniform International and Domestic Standards for the Maritime Industry

Goal: To reduce barriers to trade related to transportation. (Supports outcome 2)

Agencies Involved: DOT/USCG lead, International Maritime Organization, Departments of State, Treasury, Agriculture, Commerce, U.S. Trade Representative, U.S. Customs Service.

8.8.5 Lower Mississippi Delta Initiative

Goal: To advance economic opportunities for an area that encompasses 219 counties and parishes in Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri and Tennessee by improving the quality of life and promoting the region's advancement. (Supports outcomes 1, 3, 4, and 5)

Agencies Involved: DOT Office of Policy lead, the White House, the Departments of Agriculture, Commerce, Housing and Urban Development, Health and Human

Services, Labor, Education, and the Interior; the Small Business Administration and the Environmental Protection Agency.

8.8.6 Small Business

Goal: To expand opportunities for small, women-owned and disadvantaged businesses in DOT and DOT-assisted contracts and grants. (Supports outcomes 1, 3 and 5)

Agencies Involved: DOT Office of Small and Disadvantaged Business Utilization lead, all federal Departments with focused coordination with the Small Business Administration, the Department of Commerce, the General Services Administration and the Office of Management and Budget.